

REMARKS

This paper is responsive to any paper(s) indicated above, and is responsive in any other manner indicated below.

CONCURRENT REQUEST FOR CONTINUED EXAMINATION (RCE)

Submitted concurrently herewith is a Request for Continued Examination (RCE) transmittal. In the event that the RCE transmittal is not filed herewith, then this paper should be taken as a request for the filing of an RCE.

RCE FILED TO AVOID PROSECUTION DELAYS

In view of the significant features/limitations of the amended and/or added claims being inappropriate (i.e., deniable) for entry after final rejection in that such would require significant further search and/or consideration, the present RCE was filed to avoid Advisory Action delay and to gain immediate entry/consideration of such feature/limitations. In view of the significant features/limitations of the amended and/or added claims, it is respectfully submitted that it would NOT BE PROPER to make a FIRST ACTION FINAL within the present RCE.

PENDING CLAIMS

Claims 1-22 were pending, under consideration and subjected to examination in the Office Action. Appropriate claims have been amended, canceled and/or added (without prejudice or disclaimer) in order to adjust a clarity and/or focus of Applicant's claimed invention. That is, such changes are unrelated to any prior art or scope adjustment and are simply refocused claims in which Applicant is presently interested. At entry of this paper, Claims 1-6 and 8 will be pending for further consideration and examination in the application.

35 USC '112, 1ST PARAGRAPH REJECTION - OBSOLETE VIA AMENDMENT

Claims 6, 7, 8 and 9 have been rejected, under 35 USC '112, first paragraph, for the concerns listed within the "112" section on pages 2 and 3 of the Office Action. Traversal is appropriate, but such rejection has been rendered obsolete by the present clarifying amendments to Applicant's specification/claims. Further, to the extent that the 112, first paragraph rejection still applies to Applicant's claims, Applicant submits the following explanation of support provided within the originally-filed specification. More particularly, regarding claims 6 and 8, the reception unit is item 211 of FIG. 3, and the transmission unit is item 218 in FIG. 3. Further, the operation is shown in paragraph [0034] of this application's US-2007-0195758-A1 publication. Claims 7, 9 and 10 have been canceled (without prejudice or disclaimer). Based upon the foregoing, reconsideration and withdrawal of the above-referenced rejection are respectfully requested.

REJECTION UNDER '112, 2ND PAR. OBVIATED VIA CLAIM AMENDMENT

Claim 5 has been rejected under 35 USC '112, second paragraph, as being indefinite for the concerns listed on page 3 of the Office Action. Appropriate ones of such claims have been carefully reviewed and carefully amended where appropriate in order to address the Office Action listed concerns. As the foregoing is believed to have addressed all '112 second paragraph concerns, reconsideration and withdrawal of the '112 second paragraph rejection are respectfully requested.

REJECTION UNDER 35 USC '103

The 35 USC '103 rejection of claims 1, 12, 2, 3, 5, 14, 16, 4, 11, 13, 15 and 17 as being unpatentable over Abrol et al. (U.S. Patent 7,403,498) in view of Solomon et al. (U.S. Patent Pub 2004/0252717); and the rejection of claims 6, 7, 8, 9, 18, 19, 20, 21, 10 and 22 as being unpatentable over Abrol et al. (U.S. Patent 7,403,498) in view of Solomon et al. (U.S. Patent Pub 2004/0252717) is respectfully traversed. However, such rejections have been rendered obsolete by the present clarifying amendments to Applicant's claims, and accordingly, traversal arguments are not appropriate at this time. However, Applicant respectfully submits the following to preclude renewal of any such rejections against Applicant's clarified claims.

All descriptions of Applicant's disclosed and claimed invention, and all descriptions and rebuttal arguments regarding the applied prior art, as previously submitted by Applicant in any form, are repeated and incorporated hereat by reference. Further, all Office Action statements regarding the prior art rejections are

respectfully traversed. As additional arguments, Applicant respectfully submits the following.

Regarding differences between the cited reference and Applicant's present invention, there are plural protocols for a layer 3. A PDSN (Packet Data Serving Node) can usually handle those plural protocols. On the contrary, a terminal can handle one of those plural protocols. If the terminal is a dual stack terminal, which can handle plural protocols, the terminal starts communication after determining the protocol to be used for the communication.

RFC1661 prescribes a connection sequence in a PPP (Point to Point Protocol) communication. After establishing the connection between the terminal and the PDSN in a LCP (Link Control Protocol) phase, that is, after completing the LCP phase, either one of the terminal and the PDSN can start the NCP phase process in NCP (Network Control Protocol) phase. The PDSN does not know which protocol the terminal can handle, and thus should try all possible NCP processes corresponding to all layer 3 protocols. Only one protocol that the terminal can handle actually makes the NCP phase process work, and then the PDSN can start the packet communication using PPP.

The plural layer 3 protocol processes that the PDSN handles and tries (except the one protocol process that the terminal handles) are each futile attempts in the NCP phase. Such futile attempts make the connection time longer and reduce the resource use efficiency (paragraph [0009]). Over time, the futile attempts can accumulate into a large amount of wasted time.

This problem is more serious in wireless communication environment. The longer connection time may cause the disconnection, and the longer resource occupation may affect other communications and new connections at the other terminals.

Applicant's present invention makes the PPP connection time between the PDSN and the terminal shorter (paragraph [0010]).

More particularly, Applicant's present invention uses the fact that the terminal knows the layer 3 protocol type to be used in the NCP phase. In Applicant's present invention, the PDSN does not send a NCP start request message to the terminal, but instead waits for the terminal to send the NCP start request message to the PDSN.

The PDSN determines the layer 3 protocol type used by the terminal from the received NCP start request message and performs the NCP phase corresponding to the determined protocol type. This structure is described in amended claims.

In another embodiment (claim 8), the PDSN has a statistics processing unit. The PDSN determines the layer 3 protocol type that the terminal handles from the statistic processing, and performs the NCP phase process corresponding to the determined protocol type.

Again, Applicant's present invention makes the PPP connection time between the PDSN and the terminal shorter. If the handover occurs when the terminal moves in the mobile communication system, the interruption becomes shorter since the PPP connection time becomes shorter. Further the radio resource can be used effectively, since the sequence for the PPP connection is reduced.

Turning next to **Abrol et al.** (US 7,403,498B2), Abrol shows a new and improved method and system to efficiently re-synchronize the PPP link on the Um interface between a wireless communication device (MT2) and a base station/mobile switching center (BS/MSC) or between radio networks (RNs) as described in column 1.

Attention is directed to FIG. 1-A of Abrol. The communication system uses PPP at an Rm interval and Um interval. Assume that TE2 device 102 switches the connection destination from interworking function (IWF) 108 to another IWF by handover. In the prior art, PPP re-negotiation should be performed for both of Rm interval and Um interval. Abrol retains the Rm interval unchanged and performs the PPP re-synchronization for the Um interval.

Next, **Solomon** (US2004/0252717A1) shows an interworking between a layer 2 network and another data network (paragraph [0001]). The layer 2 network is configured to make connections between endpoints running heterogeneous Layer 2 protocols. The endpoints are connected to the Layer 2 network through network edge devices (paragraph [0006]). Each of the edge devices includes a protocol converter.

The protocol converter performs multi-protocol media conversion functions required for interworking between the native protocols for the endpoints and the common packet oriented protocol of the network (paragraph [0007]).

Continuing, regarding **Abrol et al.** (US200S/0151784A1), Abrol shows a method for transparent Mobile IP registration within PPP negotiation.

Conventionally, the registration process is not efficient since there are plural standards for managing mobile IP (Internet Protocol). Abrol provides an optimized registration process for mobile computing application.

Regarding differences, both Abrols (US 7,403,498B2 & US2008/0151784A1) relate to the PPP negotiation, while Applicant's present invention relates to an NCP phase. Abrols do not mention on any NCP phase except just a general explanation.

Abrol (US 7,403,498B2) describes on column 5, lines 24 to 25 as an explanation of Fig. 3, that "when LCP configuration negotiations complete, the IPCP configuration negotiations are performed". It means that Abrol assumes IPCP only for NCP. Abrols do not assume to handle plural NCPs.

Solomon relates to a layer 2 protocol converter. The parts indicated in the Office Action are the explanations of the protocol converter. In Solomon, the protocol converter determines a LCP frame and a NCP frame from a header field of a layer 3 payload and handles those frames differently from data frames. Solomon does not mention on any NCP process during the PPP connection between the PDSN and the terminal.

In short, none of Abrol ('498), Abrol ('784), and Solomon relates to the NCP phase and shows how to perform the NCP phase process between the PDSN and the terminal.

Accordingly, the cited references do not show "in a NCP phase after an LCP phase is completed, the control means controls the NCP phase processing means not to transmit any NCP start request message to the communication terminal device

before receiving a NCP start request message from the communication terminal device, the decision means receives the NCP start request message from the communication terminal device, and refers to a protocol field in the received NCP start request message to decide the layer 3 protocol type used by the communication terminal device”, and the PDSN transmits a NCP start request message corresponding to a decided protocol to the communication terminal device (claim 1 to 6) or “a PDSN has a PDSN statistics processing unit and the control unit decides a type of layer 3 protocol to be used for the communication with the communication terminal based on a statistics processing result performed by the statistics processing unit, and transmits a NCP start request packet of the decided layer protocol type from the transmission unit” (claim 8).

As a result of all of the foregoing, it is respectfully submitted that the applied art (taken alone and in the Office Action combinations) would not support a '103 obviousness-type rejection of Applicant's claims. Accordingly, reconsideration and withdrawal of such '103 rejection, and express written allowance of all of the '103 rejected claims, are respectfully requested.

EXAMINER INVITED TO TELEPHONE

The Examiner is herein invited to telephone the undersigned attorneys at the local Washington, D.C. area telephone number of 703/312-6600 for discussing any Examiner's Amendments or other suggested actions for accelerating prosecution and moving the present application to allowance.

RESERVATION OF RIGHTS

It is respectfully submitted that any and all claim amendments and/or cancellations submitted within this paper and throughout prosecution of the present application are without prejudice or disclaimer. That is, any above statements, or any present amendment or cancellation of claims (all made without prejudice or disclaimer), should not be taken as an indication or admission that any objection/rejection was valid, or as a disclaimer of any scope or subject matter. Applicant respectfully reserves all rights to file subsequent related application(s) (including reissue applications) directed to any/all previously claimed limitations/features which have been subsequently amended or cancelled, or to any/all limitations/features not yet claimed, i.e., Applicant continues (indefinitely) to maintain no intention or desire to dedicate or surrender any limitations/features of subject matter of the present application to the public.

CONCLUSION

In view of the foregoing amendments and remarks, Applicant respectfully submits that the claims listed above as presently being under consideration in the application are now in condition for allowance.

To the extent necessary, Applicant petitions for an extension of time under 37 CFR '1.136. Authorization is herein given to charge any shortage in the fees, including extension of time fees and excess claim fees, to Deposit Account No. 01-2135 (Case No. 500.46545X00) and please credit any excess fees to such deposit account.

Based upon all of the foregoing, allowance of all presently-pending claims is respectfully requested.

Respectfully submitted,

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